

Remarks

The Applicants have added new Claims 10 – 22. Claim 10 recites that the reaction is conducted at 8 bar. Support may be found in the Specification in paragraph [0019]. New Claim 11 recites that the reaction takes for 5 – 21 hours. This range is within the broader range of 0.5 to about 40 hours from paragraph [0015] and is particularly supported by the various Examples. New Claim 12 recites particulars for Q, Q1, R1 and R2. Claim 13 recites a more specific R2, which is the R2 for the Examples.

Claims 14 – 20 are the same as Claims 2 – 8, respectively, except that they depend from new Claim 12. New Claim 21 is modeled substantially after Claims 1 and 13 and specifies a hydrogen-transfer reaction. Claim 22 is the same as Claim 21 except that it recites a hydrogenation reaction. Entry into the Official File and consideration on the merits is respectfully requested.

The Applicants acknowledge the rejection of Claims 1 – 9 under 35 U.S.C. §103 over JP '042 and Clark.

The Applicants respectfully submit that Clark is completely inapplicable to Claims 1 – 9, inasmuch as it has nothing to do with a hydrogen-transfer reaction or a hydrogenation reaction. Clark is limited to the preparation of a compound with a double bond between two carbon atoms (compound C) from a compound having a double C = O (compound I). Thus, Clark relates to the reaction corresponding to the preparation of Formula II (as recited in Claims 1). In other words, the disclosure of Clark relates to the reaction that proceeds the claimed reaction. There are utterly no teachings or suggestions in Clark as to the claimed reaction that occurs subsequent to the preparation of the compound of Formula II of Claims 1, which is what Clark discloses.

The Clark disclosure fails to provide disclosure, teachings or suggestions to one of ordinary skill in the art what to do, if anything, with the compound of Formula II after it has been prepared.

In fact, Clark is so completely devoid of teachings and suggestions with respect to what to do with Formula II that it is non-enabling as it applies to the preparation of Compound I as recited in Claims 1 – 9. The Applicants therefore respectfully submit that Clark is inapplicable to Claims 1 – 9 and respectfully request withdrawal of the §103 rejection based on Clark.

The Applicants respectfully submit that JP '042 is also inapplicable to Claims 1 – 9. There are several reasons.

The Applicants agree that JP '042 discloses a hydrogenation reaction with acetic acid. However, the presence of acetic acid is conducted under different conditions such as at a very specific pressure condition of 40 bar, which is not a typical industrial condition. It is preferred to have a reaction conducted under pressure of about 8 bar, which is more typical of an industrial process. In any event, the rejection takes the position that both the acetic acid of JP '042 and the formic acid of Claims 1 – 9 have very little structural difference and have a very similar pKa reaction. The Applicants respectfully submit that those of ordinary skill in the art are well aware that what appear to be “very little structural differences” can and often do have a very large impact on activity or reactivity. This is a well established fact and is regularly recognized by those of ordinary skill in the art that the substitution of a methyl (or other alkyl group) for a hydrogen can and often does cause significant, unexpected results. Thus, the Applicants respectfully submit that there is potentially a very large difference between a hydrogen and a methyl group. The Applicants respectfully submit that it would be speculative to suggest that there would be little or no difference by substituting formic acid for acetic acid. Rejections under §103 cannot be maintained based on speculation.

JP '042 fails to provide teachings or suggestions to those of ordinary skill in the art to replace acetic acid with formic acid. In that regard, the Applicants invite the Examiner's attention to the

disclosure of JP '042 for further inspection, wherein it can be realized that there is utterly nothing in that disclosure that teaches or suggests to one of ordinary skill in the art that a modification should or could be made and that any advantage would or could be gained by so doing. JP '042 is utterly devoid of such teachings or suggestions with respect to any modification away from acetic acid, much less modification towards formic acid. In fact, the Applicants respectfully submit that careful scrutiny of JP '042 reveals that it never mentions formic acid at all, in any location.

Intuitively, one of ordinary skill in the art would have no motivation to make a substitution of acetic acid with formic acid. Those of ordinary skill in the art are well aware of the commonality of the use of acetic acid relative to the use of formic acid. The availability and relatively low cost of acetic acid is well documented. Why change away from something so common and so effective?

There are additional, more specific differences. In that regard, one of ordinary skill in the art needs to take into account the function of the acid in the process recited in Claim 1. In particular, Claim 1 refers to reacting a compound of Formula II with formic acid, either as a hydrogen donor in a hydrogen-transfer reaction or as a solvent in a hydrogenation reaction. With respect to formic acid used as a hydrogen donor in a hydrogen-transfer reaction, JP '042 refers to a hydrogenation reaction. However, it fails to disclose, teach or suggest a hydrogen-transfer reaction. This is because acetic acid is not known as a hydrogen donor. In that regard, the Applicants enclose a copy of pages 129, 139 and 140 of Johnstone R. and Wilby A., Chem. Rev. 1985, 85, pages 129 – 170, wherein a list of hydrogen donors in Table IV at page 140 does not include acetic acid. Therefore, the Applicants respectfully submit that one of ordinary skill in the art would have no incentive to look to JP '042 with respect to hydrogen-transfer reactions and the need for hydrogen donors.

Formic acid is also used as a solvent in a hydrogenation process as recited in Claim 1. JP '042 discloses the use of acetic acid in a hydrogenation reaction of a double bond $C = C$. However,

it does not disclose, teach or suggest that formic acid may be used for that kind of reaction. As a consequence, the Applicants respectfully submit that one of ordinary skill in the art would have had no motivation to replace acetic acid with formic acid.

Thus, by way of summary, JP '042 utterly fails to provide motivation to modify the reaction of JP '042 by utilizing any solvent other than the disclosed acetic acid. JP '042 nowhere mentions formic acid. As a consequence, it would be nothing but unsupported speculation to take the position that it would be obvious to substitute formic acid for the acetic acid disclosed in JP '042. In fact, the Applicants respectfully submit that JP '042 is non-enabling with respect to formic acid, since not one letter of disclosure suggests any type of modification away from acetic acid, much less a substitution of formic acid. Withdrawal of the §103 rejection based on JP '042 is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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